

## WEST Search History





DATE: Friday, November 10, 2006

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	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L7	L6 and (cyclohexane or cyclododecane)	6
<input type="checkbox"/>	L6	L3 and (sulphonic acid with resin or sulfonic acid with resin)	42
<input type="checkbox"/>	L5	L4 and (sulphonic acid with resin or sulfonic acid with resin)	2
<input type="checkbox"/>	L4	L3 and ester\$1 same monocarboxylic acid and hydroly\$4 with ester\$1	59
<input type="checkbox"/>	L3	(produc\$4 or mak\$3 or synthesi\$4 or manufactur\$3 or prepar\$5 or form\$3)with carboxylic acid\$1 same oxid\$5 with hydrocarbon	3234
<input type="checkbox"/>	L2	L1 and (sulphonic acid with resin or sulfonic acid with resin)	1
<input type="checkbox"/>	L1	(produc\$4 or mak\$3 or synthesi\$4 or manufactur\$3 or prepar\$5 or form\$3)with carboxylic acid\$1 same oxid\$5 with hydrocarbon same ester\$1 with hydroly\$4 and monocarboxylic acid near4 solvent	3

END OF SEARCH HISTORY

## WEST Search History





DATE: Friday, November 10, 2006

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	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L10	L9 not 17	7
<input type="checkbox"/>	L9	L8 and solvent with (monocarboxylic acid or mono-carboxylic acid)	8
<input type="checkbox"/>	L8	l3 and oxid\$5 with (cyclohexane or cyclododecane)	180
<input type="checkbox"/>	L7	L6 and (cyclohexane or cyclododecane)	6
<input type="checkbox"/>	L6	L3 and (sulphonic acid with resin or sulfonic acid with resin)	42
<input type="checkbox"/>	L5	L4 and (sulphonic acid with resin or sulfonic acid with resin)	2
<input type="checkbox"/>	L4	L3 and ester\$1 same monocarboxylic acid and hydroly\$4 with ester\$1	59
<input type="checkbox"/>	L3	(produc\$4 or mak\$3 or synthesi\$4 or manufactur\$3 or prepar\$5 or form\$3)with carboxylic acid\$1 same oxid\$5 with hydrocarbon	3234
<input type="checkbox"/>	L2	L1 and (sulphonic acid with resin or sulfonic acid with resin)	1
<input type="checkbox"/>	L1	(produc\$4 or mak\$3 or synthesi\$4 or manufactur\$3 or prepar\$5 or form\$3)with carboxylic acid\$1 same oxid\$5 with hydrocarbon same ester\$1 with hydroly\$4 and monocarboxylic acid near4 solvent	3

END OF SEARCH HISTORY

## Hit List

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Search Results - Record(s) 1 through 7 of 7 returned.

☐ 1. Document ID: US 20060094900 A1

L10: Entry 1 of 7

File: PGPB

May 4, 2006

PGPUB-DOCUMENT-NUMBER: 20060094900

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060094900 A1

TITLE: Method for making carboxylic acids

PUBLICATION-DATE: May 4, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Bonnet; Didier	Lyon		FR
Amoros; Daniel	Venissieux		FR
Simonato; Jean-Pierre	Sassenage		FR
Augier; Frederic	Saint Symphorien D'Ozon		FR
Broglio; Maria Ignez	Lyon		FR

APPL-NO: 10/533227 [\[PALM\]](#)

DATE FILED: October 28, 2003

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
FR	02 13579	2002FR-02 13579	October 30, 2002

PCT-DATA:

DATE-FILED	APPL-NO	PUB-NO	PUB-DATE	371-DATE
Oct 28, 2003	PCT/FR03/03196			Oct 3, 2005

INT-CL-PUBLISHED:

TYPE	IPC	DATE	IPC-OLD
IPCP	C07C51/31	20060101	C07C051/31

INT-CL-CURRENT:

TYPE	IPC	DATE
CIPP	<a href="#">C07 C 51/31</a>	20060101

US-CL-PUBLISHED: 562/543

US-CL-CURRENT: [562/543](#)

## ABSTRACT:

The present invention relates to a process for producing carboxylic acids. It relates more particularly to a process for producing carboxylic acids by oxidation of a hydrocarbon with oxygen or a gas containing oxygen, and even more particularly to the oxidation of cyclohexane to adipic acid. The invention relates to a process for producing carboxylic acids by oxidation with oxygen or a gas containing oxygen of a cycloaliphatic hydrocarbon in the presence of an oxidation catalyst and of a monocarboxylic oxidation solvent that is lipophilic in nature, comprising a step of extraction of the dicarboxylic acids formed in the oxidation step, consisting in carrying out, in liquid phase, an extraction of the diacids using water.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 2. Document ID: US 5547905 A

L10: Entry 2 of 7

File: USPT

Aug 20, 1996

US-PAT-NO: 5547905

DOCUMENT-IDENTIFIER: US 5547905 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Catalyst and a process for preparing carboxylic acids using the catalyst

DATE-ISSUED: August 20, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kulsrestha; Girindra N.	Dehradun			IN
Saxena; Mahendra P.	Dehradun			IN
Gupta; Ashok K.	Dehradun			IN
Goyal; Hari B.	Dehradun			IN
Prasad; Rameshwar	Dehradun			IN
Prasada Rao; Turuga S. R.	Dehradun			IN
Patel; Prakash D.	Surat			IN

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Council of Scientific & Industrial Research	New Delhi			IN		03

APPL-NO: 08/280658 [PALM]

DATE FILED: July 27, 1994

INT-CL-ISSUED: [06] B01J 29/06, C07C 69/34, C07C 69/52

## INT-CL-CURRENT:

TYPE	IPC	DATE
CIPS	B01 J 31/04	20060101
CIPS	B01 J 37/00	20060101

CIPS B01 J 37/12 20060101  
CIPS C07 C 51/215 20060101  
CIPS C07 C 51/16 20060101  
CIPS C07 C 51/31 20060101  
CIPS C07 C 51/265 20060101

US-CL-ISSUED: 502/66; 502/74, 560/190, 562/543, 562/595  
US-CL-CURRENT: 502/66; 502/74, 560/190, 562/543, 562/595

FIELD-OF-CLASSIFICATION-SEARCH: 562/543, 562/595, 560/190, 502/66, 502/74  
See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>4141861</u>	February 1979	Courty et al.	252/462
<u>4217309</u>	August 1980	Unemura et al.	568/477
<u>5041622</u>	August 1991	LeSuer	560/190

ART-UNIT: 124

PRIMARY-EXAMINER: Dees; Jose G.

ASSISTANT-EXAMINER: Williams; Rosalynd A.

ATTY-AGENT-FIRM: Bednarek; Michael D. Kilpatrick & Cody

ABSTRACT:

A catalyst comprising 70-99% by wt. of cobaltic salt and 1-30% by wt. of ferric salt, the acid component of the salt being such as acetate; propionate; naphthenate adipate and phthalate; a process for preparing the above catalyst, and a process for the preparation of carboxylic acids by oxidation of a hydrocarbon with oxygen or air in the presence of the above catalyst.

10 Claims, 0 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Draw Ds
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☐ 3. Document ID: KR 2005065651 A, FR 2846651 A1, WO 2004041765 A1, AU 2003285476 A1, EP 1562886 A1, BR 200315060 A, JP 2006504781 W, US 20060106251 A1, CN 1714068 A

L10: Entry 3 of 7

File: DWPI

Jun 29, 2005

DERWENT-ACC-NO: 2004-413612

DERWENT-WEEK: 200641

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TITLE: Manufacture of carboxylic acids by oxidation of hydrocarbons with gaseous oxygen including a stage of hydrolysis of esters formed, particularly oxidation of cyclohexane to adipic acid

INVENTOR: BONNET, D; IRELAND, T ; SIMONATO, J ; SIMONATO, J P

PRIORITY-DATA: 2002FR-0013576 (October 30, 2002)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
KR 2005065651 A	June 29, 2005		000	C07C051/215
FR 2846651 A1	May 7, 2004		019	C07C051/215
WO 2004041765 A1	May 21, 2004	F	000	C07C051/31
AU 2003285476 A1	June 7, 2004		000	C07C051/31
EP 1562886 A1	August 17, 2005	F	000	C07C051/31
BR 200315060 A	August 16, 2005		000	C07C051/31
JP 2006504781 W	February 9, 2006		022	C07C051/16
US 20060106251 A1	May 18, 2006		000	C07C051/16
CN 1714068 A	December 28, 2005		000	C07C051/31

INT-CL (IPC): C07C 27/12; C07C 51/09; C07C 51/16; C07C 51/21; C07C 51/215; C07C 51/31; C07C 51/48; C07C 55/00; C07C 55/10; C07C 55/12; C07C 55/14; C07C 55/21

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw De
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☐ 4. Document ID: CA 2142792 A, EP 694333 A1, US 5547905 A, JP 08245490 A, TW 306888 A, EP 694333 B1, DE 69420958 E, MX 9501446 A1, KR 230197 B1, JP 3389363 B2, CA 2142792 C, MX 207152 B

L10: Entry 4 of 7

File: DWPI

Sep 23, 1995

DERWENT-ACC-NO: 1996-021014

DERWENT-WEEK: 200371

COPYRIGHT 2006 DERWENT INFORMATION LTD

TITLE: New catalyst for carboxylic acid prepn. by oxidn. of hydrocarbon cpds. - comprising cobaltic and ferric salts, and prepn. of carboxylic acid cpds., partic. adipic acid, using this.

INVENTOR: GOYAL, H B; GUPTA, A K ; KULSRESTHA, G N ; PRASAD, R ; RAO, T S R P ; SAXENA, M P ; PATEL, P D ; DAHYAD, P ; RAD, P ; RAMA, T S ; RAD, T S R P ; PRASADA RAO, T S R

PRIORITY-DATA: 1994IN-DE00313 (March 22, 1994), 1994IN-DE00312 (March 22, 1994), 1994EP-0305595 (July 28, 1994), 1994US-0280658 (July 27, 1994), 1995JP-0028144 (February 16, 1995), 1995TW-0109802 (September 19, 1995), 1994DE-0620958 (July 28, 1994), 1995MX-0001446 (March 20, 1995), 1995KR-0003144 (February 18, 1995)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CA 2142792 A	September 23, 1995		020	B01J031/04

<u>EP 694333 A1</u>	January 31, 1996	E	007	B01J031/04
<u>US 5547905 A</u>	August 20, 1996		005	B01J029/06
<u>JP 08245490 A</u>	September 24, 1996		006	C07C051/21
<u>TW 306888 A</u>	June 1, 1997		000	B01J023/94
<u>EP 694333 B1</u>	September 29, 1999	E	000	B01J031/04
<u>DE 69420958 E</u>	November 4, 1999		000	B01J031/04
<u>MX 9501446 A1</u>	June 1, 1999		000	B01J023/74
<u>KR 230197 B1</u>	November 15, 1999		000	B01J023/76
<u>JP 3389363 B2</u>	March 24, 2003		006	B01J031/04
<u>CA 2142792 C</u>	May 6, 2003	E	000	B01J031/04
<u>MX 207152 B</u>	March 14, 2002		000	B01J023/74

INT-CL (IPC): B01J 23/74; B01J 23/76; B01J 23/94; B01J 29/06; B01J 31/04;  
 B01J 31/28; C07B 61/00; C07C 45/36; C07C 47/54; C07C 51/21; C07C 51/215;  
 C07C 51/31; C07C 55/00; C07C 55/02; C07C 55/12; C07C 55/14; C07C 63/06; C07C 63/15;  
 C07C 63/24; C07C 63/26; C07C 69/34; C07C 69/52

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 5. Document ID: US 3337620 A

L10: Entry 5 of 7

File: USOC

Aug 22, 1967

US-PAT-NO: 3337620

DOCUMENT-IDENTIFIER: US 3337620 A

TITLE: Preparation and recovery of acetic acid

DATE-ISSUED: August 22, 1967

INVENTOR-NAME: NULL HAROLD R; REID STANLEY L ; BINNING ROBERT C

US-CL-CURRENT: 562/548, 203/42, 203/69, 203/88, 560/263, 562/608

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 6. Document ID: US 3052714 A

L10: Entry 6 of 7

File: USOC

Sep 4, 1962

US-PAT-NO: 3052714

DOCUMENT-IDENTIFIER: US 3052714 A

TITLE: Process for the purification of liquids

DATE-ISSUED: September 4, 1962

INVENTOR-NAME: JOSEPH BRODIE HARRY

US-CL-CURRENT: 560/218; 423/43, 560/220, 560/221, 560/224

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 7. Document ID: US 3042722 A

L10: Entry 7 of 7

File: USOC

Jul 3, 1962

US-PAT-NO: 3042722

DOCUMENT-IDENTIFIER: US 3042722 A

TITLE: Oxidation of cyclic olefins

DATE-ISSUED: July 3, 1962

INVENTOR-NAME: JASON EMIL F; FIELDS ELLIS K

US-CL-CURRENT: 568/360, 172/463

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Term	Documents
(9 NOT 7) . PGPB, USPT, USOC, EPAB, JPAB, DWPI .	7
(L9 NOT L7 ) . PGPB, USPT, USOC, EPAB, JPAB, DWPI .	7

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NEWS	7	SEP 21	CA/CAplus fields enhanced with simultaneous left and right truncation
NEWS	8	SEP 25	CA(SM)/CAplus(SM) display of CA Lexicon enhanced
NEWS	9	SEP 25	CAS REGISTRY(SM) no longer includes Concord 3D coordinates
NEWS	10	SEP 25	CAS REGISTRY(SM) updated with amino acid codes for pyrrolysine
NEWS	11	SEP 28	CEABA-VTB classification code fields reloaded with new classification scheme
NEWS	12	OCT 19	LOGOFF HOLD duration extended to 120 minutes
NEWS	13	OCT 19	E-mail format enhanced
NEWS	14	OCT 23	Option to turn off MARPAT highlighting enhancements available
NEWS	15	OCT 23	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS	16	OCT 23	The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded
NEWS	17	OCT 30	CHEMLIST enhanced with new search and display field
NEWS	18	NOV 03	JAPIO enhanced with IPC 8 features and functionality
NEWS	19	NOV 10	CA/CAplus F-Term thesaurus enhanced
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FILE LAST UPDATED: 9 Nov 2006 (20061109/ED)

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=> s (hydrocarbon or cycloalkane or cyclohexane or cyclododecane) (s) oxid? (s)  
(air or oxygen) (l) (manganese) (l) (cobalt or zirconium)

332954 HYDROCARBON  
334035 HYDROCARBONS  
513991 HYDROCARBON  
(HYDROCARBON OR HYDROCARBONS)  
3612 CYCLOALKANE  
7189 CYCLOALKANES  
8906 CYCLOALKANE  
(CYCLOALKANE OR CYCLOALKANES)  
94742 CYCLOHEXANE  
2995 CYCLOHEXANES  
96080 CYCLOHEXANE  
(CYCLOHEXANE OR CYCLOHEXANES)  
1199 CYCLODODECANE  
41 CYCLODODECANES  
1213 CYCLODODECANE  
(CYCLODODECANE OR CYCLODODECANES)  
2958823 OXID?  
958537 AIR  
338 AIRS  
958681 AIR  
(AIR OR AIRS)  
743153 OXYGEN  
6964 OXYGENS  
748008 OXYGEN  
(OXYGEN OR OXYGENS)  
366047 MANGANESE  
112 MANGANESES  
366057 MANGANESE  
(MANGANESE OR MANGANESES)  
378469 COBALT  
96 COBALTS  
378472 COBALT  
(COBALT OR COBALTS)

207367 ZIRCONIUM  
22 ZIRCONIUMS  
207370 ZIRCONIUM

(ZIRCONIUM OR ZIRCONIUMS)

L1 19 (HYDROCARBON OR CYCLOALKANE OR CYCLOHEXANE OR CYCLODODECANE)  
(S) OXID? (S) (AIR OR OXYGEN) (L) (MANGANESE) (L) (COBALT OR  
ZIRCONIUM)

=> s l1 and ester? (s) hydroly?

913324 ESTER?

605657 HYDROLY?

50754 ESTER? (S) HYDROLY?

L2 0 L1 AND ESTER? (S) HYDROLY?

=> s l1 and ester? and hydroly?

913324 ESTER?

605657 HYDROLY?

L3 0 L1 AND ESTER? AND HYDROLY?

=> s l1 and ester

586177 ESTER

435988 ESTERS

818814 ESTER

(ESTER OR ESTERS)

L4 1 L1 AND ESTER

=> d l4 ibib ab

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:197057 CAPLUS

DOCUMENT NUMBER: 138:187400

TITLE: Method for oxidation of hydrocarbons to acids, and  
particularly for the production of adipic acid by  
oxidation of cyclohexane, cyclohexanol, and/or  
cyclohexanone, using manganese catalysts in the  
presence of aromatic organic acids

INVENTOR(S): Bonnet, Didier; Fache, Eric; Simonato, Jean Pierre

PATENT ASSIGNEE(S): Rhodia Polyamide Intermediates, Fr.

SOURCE: Fr. Demande, 18 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2828194	A1	20030207	FR 2001-10427	20010803
FR 2828194	B1	20040319		
WO 2003014055	A1	20030220	WO 2002-FR2508	20020715
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1412316	A1	20040428	EP 2002-767570	20020715
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
CN 1549805	A	20041124	CN 2002-817005	20020715

JP 2004537586	T2	20041216	JP 2003-519009	20020715
RU 2274633	C2	20060420	RU 2004-106161	20020715
TW 583170	B	20040411	TW 2002-91117567	20020805
US 2004242922	A1	20041202	US 2004-485468	20040708
PRIORITY APPLN. INFO.:			FR 2001-10427	A 20010803
			WO 2002-FR2508	W 20020715

OTHER SOURCE(S): CASREACT 138:187400; MARPAT 138:187400

AB A process is claimed for the oxidation of saturated, (un)substituted, (cyclo)aliphatic hydrocarbons, or alkylarom. hydrocarbons, and/or alcs. or ketones, to give acids or polyacids. The process uses O<sub>2</sub> as the oxidizing agent, in a liquid medium, in the presence of a manganese-based catalyst and an organic acid solvent component of formula R<sub>n</sub>-Ar-CO<sub>2</sub>H [I; Ar = aromatic radical of 1 or more condensed aromatic rings.; n = 1-3; R = CR<sub>1</sub>R<sub>2</sub>R<sub>3</sub> where R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> = C1-4 alkyl or F]. In comparison to the standard solvent (acetic acid), acids I provide simpler isolation of the acid products, as well as simplified recycling of catalyst and other advantages. This added solvent component may also contain addnl. substances, particularly nitriles, hydroxyimides, and halogenated (especially fluorinated) substances; these can improve the productivity and/or selectivity of the reaction, e.g., by improving the dissoln. of oxygen. For example, cyclohexane was oxidized by atmospheric O<sub>2</sub> at 140° and > 125 bar in the presence of Mn(acac)<sub>3</sub> catalyst, cyclohexanone, and 4-tert-butylbenzoic acid (II), for approx. 35 min., to give 7.17% transformation of cyclohexane, with the following selectivities to acid products: adipic acid 53.6%, glutaric acid 11.8%, and succinic acid 3.5%. In a similar comparative experiment, acid II gave a cyclohexane conversion of 3.64%, vs. 2.32% for 4-CF<sub>3</sub>C<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>H, 1.65% for PhCO<sub>2</sub>H, and only 0.48% with no aromatic acid solvent component.

=> d his

(FILE 'HOME' ENTERED AT 20:32:07 ON 10 NOV 2006)

FILE 'CAPLUS' ENTERED AT 20:32:22 ON 10 NOV 2006

L1	19 S (HYDROCARBON OR CYCLOALKANE OR CYCLOHEXANE OR CYCLODODECANE)
L2	0 S L1 AND ESTER? (S) HYDROLY?
L3	0 S L1 AND ESTER? AND HYDROLY?
L4	1 S L1 AND ESTER

=> s l1 and (sulphonic acid or sulfonic acid)

914 SULPHONIC  
4241378 ACID  
1548251 ACIDS  
4737784 ACID  
(ACID OR ACIDS)  
837 SULPHONIC ACID  
(SULPHONIC(W)ACID)  
77916 SULFONIC  
20 SULFONICS  
77930 SULFONIC  
(SULFONIC OR SULFONICS)  
4241378 ACID  
1548251 ACIDS  
4737784 ACID  
(ACID OR ACIDS)  
73151 SULFONIC ACID  
(SULFONIC(W)ACID)

L5 0 L1 AND (SULPHONIC ACID OR SULFONIC ACID)

=> s l1 and (polycarboxylic acid or adipic acid or glutaric acid or dodecanedioic acid)

12464 POLYCARBOXYLIC  
4241378 ACID  
1548251 ACIDS

4737784 ACID  
 (ACID OR ACIDS)  
 10101 POLYCARBOXYLIC ACID  
 (POLYCARBOXYLIC (W) ACID)  
 38824 ADIPIC  
 4241378 ACID  
 1548251 ACIDS  
 4737784 ACID  
 (ACID OR ACIDS)  
 36653 ADIPIC ACID  
 (ADIPIC (W) ACID)  
 13169 GLUTARIC  
 1 GLUTARICS  
 13169 GLUTARIC  
 (GLUTARIC OR GLUTARICS)  
 4241378 ACID  
 1548251 ACIDS  
 4737784 ACID  
 (ACID OR ACIDS)  
 10083 GLUTARIC ACID  
 (GLUTARIC (W) ACID)  
 2975 DODECANEDIOIC  
 4241378 ACID  
 1548251 ACIDS  
 4737784 ACID  
 (ACID OR ACIDS)  
 2918 DODECANEDIOIC ACID  
 (DODECANEDIOIC (W) ACID)  
 L6 3 L1 AND (POLYCARBOXYLIC ACID OR ADIPIC ACID OR GLUTARIC ACID OR  
 DODECANEDIOIC ACID)

=> d his

(FILE 'HOME' ENTERED AT 20:32:07 ON 10 NOV 2006)

FILE 'CAPLUS' ENTERED AT 20:32:22 ON 10 NOV 2006

L1 19 S (HYDROCARBON OR CYCLOALKANE OR CYCLOHEXANE OR CYCLODODECANE)  
 L2 0 S L1 AND ESTER? (S) HYDROLY?  
 L3 0 S L1 AND ESTER? AND HYDROLY?  
 L4 1 S L1 AND ESTER  
 L5 0 S L1 AND (SULPHONIC ACID OR SULFONIC ACID)  
 L6 3 S L1 AND (POLYCARBOXYLIC ACID OR ADIPIC ACID OR GLUTARIC ACID O

=> s l6 not l4

L7 2 L6 NOT L4

=> d l7 ibib ab 1-2

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:10408 CAPLUS

DOCUMENT NUMBER: 136:70245

TITLE: Method for oxidizing hydrocarbons, alcohols and/or ketones

INVENTOR(S): Fache, Eric

PATENT ASSIGNEE(S): Rhodia Polyamide Intermediates, Fr.

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2002000588 A1 20020103 WO 2001-FR1976 20010622  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,  
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,  
UZ, VN, YU, ZA, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
FR 2810904 A1 20020104 FR 2000-8323 20000628  
FR 2810904 B1 20021220  
CA 2413848 AA 20020103 CA 2001-2413848 20010622  
EP 1305273 A1 20030502 EP 2001-947587 20010622  
EP 1305273 B1 20050427  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
BR 2001012275 A 20030610 BR 2001-12275 20010622  
JP 2004501887 T2 20040122 JP 2002-505339 20010622  
JP 3824994 B2 20060920  
RU 2235714 C1 20040910 RU 2003-102382 20010622  
AT 294153 E 20050515 AT 2001-947587 20010622  
ES 2237579 T3 20050801 ES 2001-1947587 20010622  
TW 527344 B 20030411 TW 2001-90115754 20010628  
US 2005277787 A1 20051215 US 2003-312534 20030602  
PRIORITY APPLN. INFO.: FR 2000-8323 A 20000628  
WO 2001-FR1976 W 20010622

AB The invention concerns a method for oxidizing with  
oxygen or an oxygen-containing gas, hydrocarbons  
into corresponding carboxylic acids, alcs. and/or ketones or alcs. and/or  
ketones into corresponding carboxylic acids. More precisely the invention  
concerns a method for oxidizing hydrocarbon, alc.  
and/or ketone using oxygen or an oxygen-containing gas, in  
liquid phase and in the presence of a catalyst dissolved in a reaction  
medium. The invention is characterized in that the catalyst comprises a  
soluble manganese and/or cobalt compound,  $\geq 1$  soluble  
chromium compound, and  $\geq 1$  soluble iron compound This system is especially  
useful in manufacture of adipic acid from cyclohexane.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:568609 CAPLUS  
DOCUMENT NUMBER: 129:190734  
TITLE: Complexed catalytic system for oxidation of  
hydrocarbons and oxidation process  
INVENTOR(S): Nakano, Tatsuya; Ishii, Yasutaka  
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan  
SOURCE: Eur. Pat. Appl., 25 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 858835	A1	19980819	EP 1998-102728	19980217
EP 858835	B1	20030507		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 10286467	A2	19981027	JP 1997-353396	19971222
US 5981420	A	19991109	US 1998-24514	19980217
PRIORITY APPLN. INFO.:			JP 1997-32437	A 19970217

OTHER SOURCE(S): MARPAT 129:190734

AB A substrate, e.g., a cycloalkane, a polycyclic hydrocarbon, an aromatic compound having a Me group, etc., is oxidized with O in the presence of an oxidation catalytic system comprising an imide [I; R1, R2 = H, OH, halo, (cyclo)alkyl, alkoxy(carbonyl), carboxy, acyl, aryl; R1R2 = double bond, (non)aromatic ring; X = O, OH; n = 1-3], e.g., N-hydroxyphthalimide, and a cocatalyst containing  $\geq 1$  Group 3-12 element, in particular Group 4-11 element, e.g., Ti, Cr, V, Cr, etc., (with a proviso). The catalytic system is useful for the manufacture of ketones, alcs., aldehydes and carboxylic acids. For example, stirring a mixture of cyclohexane 10, 1 mmol N-hydroxyphthalimide 1, Mn(acac)<sub>2</sub> 0.01, RuCl<sub>3</sub> 0.1 and Co(acac)<sub>2</sub> 0.01 mmol for 6 h at 100° in 25 mL AcOH under O gave 76% adipic acid and 2% cyclohexanone with 90% cyclohexane conversion.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT